amount, and autopsies revealed no changes, saving some slight renal congestion.

On the other hand, when ammonia, even in small quantity, is added to urine, the noxious character of the mixture becomes very apparent and death an early consequence. Fever is set up in four or five days: the oscillations in temperature are diurnal, with a progressive upward movement; whilst defervescence is sudden and soon followed by death. The toxic power increases in direct proportion with the quantity of ammonia added. Albuminuria and visceral congestions appear, and the blood readily coagulates, even in vessels of medium size, unlike what happens with injections of simple aqueous solutions of ammonia, or with those of normal urine. Moreover, local abscesses more quickly form, together with purulent deposits. An examination of these phenomena exhibits a considerable relationship between them and those of urinary fever (fièvre urineuse).

The next stage of investigation was that of the effects of ammoniacal or decomposing urine; and the experimenters took pains to determine the alkalinity and the quantity of ammonia existing in the specimens of urine they employed. Their experiments proved such urine to be more noxious than the artificial mixture of urine and ammonia. The fever induced sprang up almost immediately after the first injections, and death quickly resulted. Accompanying the fever were noted also various symptoms; agitation, cries of pain, diarrhœa, loss of appetite, and towards the end, difficult noisy respiration, lateral decubitus and albuminuria. The febrile condition observed recalled very closely that attendant upon operations on the urinary passages. After each injection there was an immediate elevation of temperature, which after a while decreased; to be presently revived by a fresh injection, until ultimately a continued febrile state was set up, terminating by sudden defervescence and death.

The addition of ammonia to the decomposing urine previously employed rendered it vastly more poisonous. Moreover, if instead of excluding air as was done in the injections already alluded to, air was admitted into the wounds to mix with the injected material, the consequences were still more fatal; apparently so from the more rapid decomposition set in motion, and the quicker evolution of ammonia.

One deduction from these experiments is, that in the case of an operation, where the urine is acid, two conditions are required to develop poisonous consequences, viz., the presence of air and the admixture of pus or of blood with the urine, as essential factors in its decomposition. Another is, that although the action of decomposing urine be more intense in proportion to the quantity of carbonate of ammonia it contains, yet that this last-named substance is not the sole factor in the production of the evils consequent upon the absorption of urine after operations; for a fetid specimen is more noxious than one not so, although the proportion of ammonia be alike in the two.

Lastly, as a matter of pure hypothesis, the authors of the essay suggest an analogy between urinary fever and septicæmia, and the possible influence of microscopic organisms introduced into the blood by the medium of decomposing urine.—*Brit. and For. Med. Chir. Rev.*, Oct. 1874, from *Archives Gén. de Méd.*, May and June, 1874.

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30. *Strangury from Local Application of Tincture of Iron.*—Mr. EDWARD ATKINSON, of Leeds, relates (*The Practitioner*, Oct. 1874) the following very curious case of this. A gentleman of 48, robust, stout, and generally healthy, very abstemious, but of (perhaps inherited) gouty diathesis. Coming out of church in the dark, he stumbled, and slightly twisted his leg, which was followed by painful swelling of the inguinal glands. In a week the swelling assumed the characters of gouty inflammation, and soon after an erysipelatous blush appeared over the groin and upper part of the thigh. I painted it with tincture of iron, and the following day I found him suffering from very severe strangury. Within twenty-four hours the symptom had quite disappeared, and never returned. This occurrence rather puzzled me as a result of the painting with iron, and I was naturally disposed to refer the pain to gouty kidney. But a day or two after my patient told me he remembered to have had a precisely

similar attack when at 20 years of age he was wrecked on an island in the China seas, robbed of his clothes, and compelled to accept such garments as the natives offered him. In consequence, as he supposed, of wearing this clothing he acquired an eruption round the waist which he styled "itch" (but which may probably have been *herpes zoster*). On reaching Singapore a surgeon whom he consulted painted the eruption with tincture of iron, and thereupon he was seized with violent strangury which lasted a day or two. The coincidence, as it appears to me, proves that this agent may be classed among those which can induce strangury in certain persons—though, perhaps, in those only who have a tendency to gout.

31. *Inoculability of the Pustules of Ecthyma.*—M. VIDAL states (*Gaz. Hebdom. de Méd. et de Chirurgie*, Nov. 20, 1874), 1st, that the pustules of ecthyma of typhoid fever, and especially of ecthyma simplex, are auto-inoculable; 2d, that the pustules produced by the auto-inoculation run the same course as the pustules which arise spontaneously, and that the pus from them is inoculable the fourth day; 3d, that the contents of the pustules of the second generation is auto-inoculable; 4th, that its activity goes on diminishing and ceases at the third or fourth generation.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

32. *Lister's Method of Treating Wounds.*—Prof. DEMARQUAY, after having given Prof. Lister's mode of dressing wounds and ulcers a fair trial at the Maison Municipale de Santé, lately read a paper before the Academy of Sciences, containing the results of his observations. He said that, however successful the Scotch surgeon might have been with this method, he himself could not say that it possessed any particular advantages over the other methods in ordinary use; that, on the contrary, it had a great many drawbacks, which he summed up as follows. The atmosphere surrounding the patient is impregnated with carbolic acid, which is disagreeable to the surgeon and to his assistants; moreover, the hand of the operator is numbed and becomes the seat of a pricking sensation, which sometimes lasts more than twenty-four hours. The spray which is directed constantly on the wound favours hemorrhage, and it is difficult to estimate the quantity of blood thus lost; besides which, it is more difficult to stop the bleeding. Dr. Demarquay made his observations on eight cases on which he had operated; viz., four of tumour of the breast complicated with enlargement of the axillary glands, two of castration, one case in which a chondromatous tumour of considerable size was removed from the right parotid region, and, lastly, a case of removal of a fibro-plastic tumour from the abdominal parietes. Among these eight patients, four were the subjects of venous hemorrhage on the day of the operation, one of arterial hemorrhage (secondary) on the eighth day, and another was affected with purulent infection, which terminated fatally. Dr. Demarquay remarks that no accidents occurred in any of the cases operated on about the same time and in the ordinary way, and the following are the results of his observations on the eight cases referred to above. 1. The wounds were languid-looking, atonic, pale, indolent; which, however, did not prevent cicatrization. 2. The pus, which flowed in large quantity, was of serous character, and contained only a few pus-globules. 3. The carbolic acid seemed to render the blood more diffluent, prevented its coagulation, and thus favoured primary hemorrhages at the surface of the wounds. Dr. Demarquay next inquires into the effects of Lister's method upon the vibriones. The pus escaping from the wound was carefully examined each day or every second day by the microscope, and these microzoa were constantly found in it. These, he added, were not peculiar to this mode of dressing, but they were found in all the other plans employed, such as alcohol, tincture of eucalyptus, glycerine,